

Algorithmics	Student information	Date	Number of session
	UO: 294768	04/02/2024	01
	Surname: Cimadevilla Cuanda		
	Name: Francisco		



Escuela de  
Ingeniería  
Informática  
Universidad de Oviedo



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## Activity 1. [Factor 1 (Problem size)]

PythonA1.py	
n (size)	Time (milliseconds)
10000	2395
20000	9889
40000	64941 (OoT)
80000	209018 (OoT)
160000	OoT
320000	OoT
640000	OoT

*OoT = 'Out Of Time'*

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## Activity 2. [Factor 2 (Computer performance)]

PC	CPU	RAM	OS
Lenovo	Intel i5-12500H @ 2.5GHz	16 GB	Windows 11 pro
Toshiba	Intel i3-3110M @ 2.4GHz	8 GB	Windows 10 pro

PythonA1.py		
n (size)	Lenovo [Time (milliseconds)]	Toshiba [Time (milliseconds)]
10000	2395	4903
20000	9889	20149
40000	64941 (OoT)	80585 (OoT)
80000	209018 (OoT)	OoT
160000	OoT	OoT
320000	OoT	OoT
640000	OoT	OoT

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### Activity 3. [Factor 3 (Implementation Environment)]

n (size)	Python Environment (milliseconds)	Java Environment (milliseconds)
10000	2395	99
20000	9889	435
40000	64941 (OoT)	1673
80000	209018 (OoT)	6600
160000	OoT	27136
320000	OoT	112237 (OoT)
640000	OoT	OoT

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## Activity 4. [Factor 4 (Algorithm That Is Used)]

Using Python			
n (size)	PythonA1.py (milliseconds)	PythonA2.py (milliseconds)	PythonA3.py (milliseconds)
10000	2395	237	122
20000	9889	884	433
40000	64941 (OoT)	3141	1589
80000	209018 (OoT)	12107	5971
160000	OoT	45235	22508
320000	OoT	168024 (OoT)	84473 (OoT)
640000	OoT	OoT	OoT

Using Java (WITHOUT OPTIMIZATION)			
n (size)	JavaA1 (milliseconds)	JavaA2 (milliseconds)	JavaA3 (milliseconds)
10000	139	67	66
20000	521	244	238
40000	2647	889	870
80000	8246	3293	3237
160000	54662	14491	12110
320000	195774 (OoT)	81501 (OoT)	46786
640000	OoT	OoT	306239 (OoT)

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Using Java ( <b>WITH</b> JIT OPTIMIZATION)			
n (size)	JavaA1 (milliseconds)	JavaA2 (milliseconds)	JavaA3 (milliseconds)
10000	99	13	14
20000	435	41	43
40000	1673	170	159
80000	6600	654	670
160000	27136	2340	2384
320000	112237 (OoT)	9033	9015
640000	OoT	33939	33617